Remarks and Arguments

Claims 3 and 21 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In particular, the examiner has argued that the use of the term "garter spring" by the applicants is incorrect. The applicants have used the term to mean "a coiled spring that exerts an outward radial force," while the examiner argues that the correct meaning is "a coiled spring that exerts an *inward* radial force." However, it is believed that the generally-understood meaning of a "garter spring" is a helical spring wound into an annular shape. Such a spring may be an extension or a compression spring and, depending on whether the spring is in a state of compression or extension dictates whether it provides an outward radial force or an inward radial force. The spring described in the present invention is contained by a ring on which it places sufficient force to maintain the ring in an annular shape. This outward radial force is obvious from any attempt to compress the ring, which results in the outward radial force of the spring returning it to its annular shape. Unless the examiner can explain why it is believed that a garter spring can exert only inward forces, it is respectfully requested that this rejection be withdrawn.

Claims 1, 2, 4-11, 13, 14, 19, 20, 22-27 and 29 were rejected under 35 U.S.C. §102(b) as being anticipated by Yuen. In making this rejection, the examiner has stated that Yuen discloses a surgical retractor having all of the limitations of the rejected claims. However, a careful reading of Yuen and the applicants' disclosure reveals some significant distinctions between the two.

Yuen discloses a surgical retractor having an inflatable sleeve that, when uninflated, resides in a coiled state. In the coiled state, the sleeve has a profile that is relatively narrow, such that it fits into an incision of a given length. Upon inflation of the sleeve, it uncoils and expands the incision to a circular shape, thereby exposing the area within. As shown in the figures of the Yuen patent, and described in the text, the inflatable cuff is made up of a number of individual pockets 16a that are interconnected by a "channel tube means" that allows them to all be filled by one or two inflow nozzles.

The pockets 16a extend the length between the upper lip 12 and the lower lip 14 of the retractor.

The present invention includes an embodiment covering a retractor for which an and inner and outer ring of the retractor are inflatable. In contrast to Yuen, however, the portion that connects the inner and outer ring, an elongate sleeve open at opposite ends, has no inflatable components. That is, whereas Yuen uses inflatable pockets along the entire length of the retractor, the applicants' retractor has inflatable portions only at the rings positioned at the two sides of the sleeve. The applicants' retractor does not operate by inflating from a coiled state to an uncoiled state. Rather, the dilation of the rings causes their diameter to increase, drawing the sheet against the sides of the incision, and opening it to a desired diameter. Unlike Yuen, there are no inflatable pockets in the sheet, and no coiled or uncoiled shape to the retractor.

The Yuen retractor uses inflation pockets throughout the entire retractor body to open the surgical incision. There are several problems with a design such as this. First, with the pockets butting up against the fascia surrounding the incision, leakage of the inflation fluid into the fascia becomes more likely. Moreover, the retractor relies on a complete inflation of all of the pockets to generate the desired shape. If one or more of the pockets fails to inflate, the retractor will not have an even 360° force distribution around the incision. In addition, if the retractor is less than fully inflated, the pressure of the fascia on the retractor will force it into a less useful shape. That is, when less than fully inflated, the retractor will assume the shape of the wound. In contrast, the present invention does not suffer from the leakage capacity of the Yuen retractor, and will always exert some degree of tension on the fascia in a 360° range.

In order to more clearly highlight the differences of the of the present invention, Claims 1 and 19 have been amended herein to specify that the elongate sleeve is "non-dilatable." With this amendment, it is clear that it is not an inflation of the sleeve in the incision that causes it to expand, but an inflation of the rings to which the sleeve is attached. This is an arrangement that is clearly unsuggested by the cited prior art. In

order to avoid any confusion, the wording of dependent Claims 4, 5 and 22 has been amended to specify that the sheet and the rings can be made from the same piece of material. Claims 2, 4-11, 13 and 14 each depends ultimately from Claim 1, and Clamis 20, 22-27 and 29 each depends ultimately from Claim 19, and these claims are therefore equally unsuggested by the cited prior art. Reconsideration of Claims 1, 2, 4-11, 13, 14, 19, 20, 22-27 and 29 under this ground for rejection is respectfully requested.

Claims 3 and 21 were rejected under 35 U.S.C. §103(a) as being obvious over Yuen in view of U.S. Patent No. 5,366,478 ("Brinkerhoff"). In making this rejection, the examiner has argued that Yuen discloses all of the features of the cited claims but for the springs. Brinkerhoff is therefore cited as showing the use of "flexible stiffing rings" (which the examiner equates to "springs") in order to provide shape when the disclosed device is deflated to facilitate insertion into a body cavity.

Brinkerhoff discloses an endoscopic surgical sealing device that uses flexible stiffening rings that "provide shape" to the sealing device when it is deflated. There is no suggestion that these rings provide an outward radial force. In addition, for the reasons provided above, the combination of Yuen and Brinkerhoff still fails to suggest a retractor as recited in Claims 3 and 21, which depend, respectively, from Claims 1 and 19. As such, reconsideration of Claims 3 and 21 under this ground for rejection is respectfully requested.

Claims 12 and 28 were rejected under 35 U.S.C. §103(a) as being obvious over Yuen in view of U.S. Patent No. 3,863,639 ("Kleaveland"). In making this rejection, the examiner has argued that Yuen discloses the claimed invention with the exception of using of a syringe as a pressure source. The Kleaveland reference is therefore cited in combination with Yuen as showing this feature.

Kleaveland discloses a visceral retainer for retaining the viscera inside the abdominal cavity of a patient during closure of an abdominal incision. The retainer uses

an inflatable bladder that may be inflated using a bulb or a syringe. Notably, this device is unrelated to the field of surgical retractors. In addition, for the reasons provided above, the combination of Yuen and Kleaveland still fails to suggest a retractor as recited in Claims 12 and 28, which depend, respectively, from Claims 1 and 19. As such, reconsideration of Claims 12 and 28 under this ground for rejection is respectfully requested.

Claims 15-18 were rejected under the judicially-created doctrine of obviousness-type double patenting over Claim 1 of U.S. Patent No. 6,723,044 (the '044 patent). These claims have not been amended or canceled at this time, and applicant reserves the right to do so at a later date, or to address this rejection through the submission of a terminal disclaimer. For now, however, reconsideration of Claims 15-18 under this ground for rejection is respectfully requested.

New Claims 30-42 have been added to provide more complete coverage of the invention. These claims are related to the embodiment claimed in Claims 15-18, and therefore should not require a new search. Acceptance and allowance of these new claims is respectfully requested.

In light of the foregoing amendments and remarks, it is respectfully requested that all the claims be allowed such that the application may be passed to issue. If it is believed that a telephone conference will help expedite prosecution of the application, the examiner is invited to call the undersigned. The Commissioner is hereby authorized to charge any additional fees due for the filing of this paper to the applicants' attorneys' Deposit Account No. 02-3038.

Respectfully submitted

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